



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,727	12/21/2001	Chenghua Oliver Han	22.1450	9783
7590 02/25/2009 SCHLUMBERGER TECHNOLOGY CORPORATION 14910 Airline Road P.O. Box 1590 Rosharon, TX 77583-1590				
EXAMINER JOHNSON, STEPHEN				
ART UNIT		PAPER NUMBER		
3641				
MAIL DATE		DELIVERY MODE		
02/25/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/027,727

Examiner

Stephen M. Johnson

Applicant(s)

HAN, CHENGHUA OLIVER

Art Unit

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2009.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,6,7,17-19,22,23,25,27,28,30,33-35 and 42-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,6,7,17-19,22,23,25,27,28,30,33-35 and 42-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-502)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. The following Office action is in response to the RCE as filed on 2/6/2009. Claims 1, 3, 6-7, 17-19, 22-23, 25, 27-28, 30, 33-35, and 42-45 remain active in the case. Claims 2, 4-5, 8-16, 20-21, 24, 26, 29, 31-32, and 36-41 have been cancelled.
2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 6-7, 22-23, 25, and 42, and 44-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Lebourg et al. (794).

Lebourg et al. (794) disclose a perforating system comprising:

- | | |
|--|-----------------------------|
| a) a charge case of a shaped charge; | 10, 16, 17, 18 (see fig. 1) |
| b) an explosive in the charge case; | 11 |
| c) a liner in the charge case; and | 13, 14, 15 (see fig. 1) |
| d) a v-notched external notch or groove. | 18 |

Note that although notch 18 has not been explicitly mentioned as providing a scoring mark to aid in fracturing of the casing 10, such scoring would inherently act to weaken the casing and aid in fracturing. Further, note that all applicant has claimed is “adapted to fracture in response to detonation” and this is inherently met.

4. Claims 1, 6-7, 17-18, 22-23, 25, 27-28, 30, 33, 35, 42, and 44-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Slagle et al. (095).

Slagle et al. (095) disclose a perforating system and associated method of use comprising:

- | | |
|--------------------------------------|--------|
| a) a charge case of a shaped charge; | 34, 40 |
|--------------------------------------|--------|

- | | |
|--|-----------------------|
| b) an explosive in the charge case; | 38 |
| c) a liner in the charge case; | 39 |
| d) a v-notched external notch or groove; | 47 |
| e) conveying the perforating string into a well; | see fig. 1 |
| f) a loading tube; and | inside 2 (see fig. 1) |
| g) a carrier. | 12 (see fig. 1) |

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3, 34, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slangle et al. (095) in view of Arnold (862).

Slangle et al. (095) apply as previously recited. However, undisclosed are scoring grooves that are oriented axially as well as radially. Arnold (862) teaches scoring grooves that are oriented axially as well as radially (see fig. 1). Applicant is substituting one type of scoring groove arrangement for another in an analogous art setting with expected or predictable results. It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Arnold to the Slangle et al. perforating system with associated use and have a perforating gun arrangement with differently arranged scoring grooves.

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Slangle et al. (095) in view of Markel et al. (343).

Slangue et al. (095) apply as previously recited. However, undisclosed is a spirally arranged perforating string. Markel et al. (343) disclose a spirally arranged perforating string (see fig. 5a). Applicant is substituting one type of perforating gun arrangement for another in an analogous art setting with expected or predictable results. It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Markel et al. to the Slangue et al. perforating system with associated use and have a perforating gun of a different type.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Johnson whose telephone number is 571-272-6877 and whose e-mail address is (Stephen.Johnson@uspto.gov). The examiner can normally be reached on Tuesday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571-272-6873. The Central FAX phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 800-786-9199.

/Stephen M. Johnson/
Primary Examiner, Art Unit 3641

SMJ
February 17, 2009